

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

1.(currently amended) A method for fast active scanning on a wireless local area network (WLAN) between a mobile station (STA) and at least one Access Point (AP) comprising the steps of:

(a) ~~—~~ sending a probe request message 210,305 by an STA ~~(STA) 238~~ over a particular channel having a particular Access Point ~~(AP) 258,278~~ in communication therewith with the STA;

(b) ~~—~~ receiving by said ~~the particular Access Point (AP) 258,278~~ the probe request message 210,305 sent by the STA ~~(STA) 238~~ in step (a);

(c) ~~—~~ sensing by ~~[[a]] the particular Access Point (AP) 278~~ of a point coordination function (PCF) interframe space (PIFS) 325 of the particular channel; and

(d) sending by said ~~the particular Access Point (AP) 278~~ of a probe response message 330 to the STA ~~(STA) 238~~ in response to the probe request message after the PIFS (PIFS) without the particular Access Point performing a backoff interval.

2.(cancelled)

3.(currently amended) The method according to claim 1, wherein the probe request message 210,305 is a uni-cast message to the particular Access Point ~~(AP) 278~~.

4.(currently amended) The method according to claim 1, wherein if the STA ~~238~~ does not receive a probe response message within a predetermined time period, the STA senses a distributed coordination function interframe space period (DIFS) interframe space ~~215,306~~, wherein the STA ~~(i)~~ selects and implements a backoff interval prior to broadcasting the probe request message on the particular channel to all available Access Points ~~(APs)~~.

5.(currently amended) The method according to claim 1, wherein if the STA-238 does not receive a probe response message within a predetermined time period, the STA senses a distributed coordination function interframe space period (DIFS) interframe space-215,306, wherein the STA-(i) selects and implements a backoff interval prior to broadcasting the probe request message on a ~~different channel~~ different than the particular channel.

6.(currently amended) The method according to claim 1, wherein if the STA-238 does not receive a probe response message within a predetermined time period, the STA selects another Access Point-(AP) on the particular channel and senses a distributed coordination function interframe space period (DIFS) interframe space 215,306, wherein the STA-(i) selects and implements a backoff interval prior to sending another probe request message that comprises a uni-cast message.

7.(currently amended) The method according to claim 1, wherein if the STA-238 does not receive a probe response message within a predetermined time period, the STA selects another Access Point-(AP) on a different channel and senses a distributed coordination function interframe space period (DIFS) interframe space-215,306, wherein the STA-(i) selects and implements a backoff interval prior to sending another probe request message that is a uni-cast message.

8.(currently amended) The method according to claim 4, wherein said backoff interval having a range of (0, CW), where CW denotes a Contention Window-110.

9.(currently amended) The method according to claim 3, wherein only the particular Access Point-(AP)-278 transmits after the PIFS-(PIFS) interframe in response to receiving the uni-cast probe request message-215, 305 from an STA.

10.(currently amended) The method according to claim 1, further comprising:

(e) acknowledging receipt of a probe response message ~~330~~ by the STA ~~(STA)~~ 238 in response to the probe request message; and

(f) continuing a hand-off function by the ~~STA~~ ~~(238)~~ with the particular Access Point ~~(AP)~~ 278.

11.(currently amended) A method for fast active scanning ~~in~~ in a wireless local area network (WLAN) between a mobile station (STA) and at least one Access Point (AP) comprising the steps of:

(a) sending a probe request message comprising a uni-cast message by an STA ~~(STA)~~ 238, 248, 268 on the particular channel having at least one Access Point ~~(AP)~~ 258, 278 in communication therewith with the STA;

(b) receiving by ~~one~~ a particular Access Point ~~(AP)~~ 278 the probe request message sent by the STA ~~(STA)~~ in step (a);

(c) preparing a probe response message by the ~~one~~ particular Access Point ~~(AP)~~ 278;

(d) sensing by the particular Access Point ~~(AP)~~ 278 of a point coordination function ~~(PCF)~~ interframe space (PIFS) ~~325~~ of the particular channel; and

(e) sending by the said particular Access Point ~~(AP)~~ 278 of a probe response message to the STA ~~(STA)~~ 238 in response to the probe request message without the particular Access Point performing a backoff interval.

12.(currently amended) The method according to claim 11, wherein if a predetermined time period passes without a response from the particular Access Point ~~(AP)~~, after sensing a distributed coordination function interframe space period (DIFS) interframe space, the ~~DIFS interframe space~~ 215, 306 in the STA ~~(STA)~~ 238 (i) selects and implements said a backoff interval prior to broadcasting the a probe request message ~~240, 305~~ on the particular channel.

13.(currently amended) A method for providing handoffs by fast active scanning on a wireless local area network (WLAN) between a mobile station ~~(STA)~~ 238

associated with a first Access Point (AP) 258 to a new Access Point(AP) 278, said method comprising ~~the steps of:~~

(a) ~~—sensing, by the mobile station, a station (STA) 238, 248, 268 for a distributed coordination function (DCF) interframe space period (DIFS) of a particular channel;~~

(b) ~~—sending a probe request message 210, 305 by the mobile station a (STA) 238, 248, 268 throughout the particular channel having at least one new Access Point (AP) 278 in communication therewith;~~

(c) ~~—receiving by said at least one new Access Point (AP) 278 the probe request message 210, 305 sent by the mobile station (STA) 238, 248, 268 in step (b);~~

(d) ~~—preparing a probe response message by the new Access Point (AP) 278;~~

(e) ~~—sensing by the new Access Point (AP) 278 a point coordination function (PCF) interframe space (PIFS) 325 of the particular channel;~~

(f) ~~—sending by said new Access Point (AP) 278 of a probe response message 330 to the mobile station STA in response to the probe request message 210, 305 without performing a backoff interval; and~~

(g) ~~—said the mobile station (STA) 238, 248, 268 authenticating and re-associating with said new Access Point (AP) 278, followed by the mobile station (STA) 238, 248, 268 being handed-off to said new Access Point (AP) 278.~~

14.(cancelled)

15.(currently amended) An Access Point in a wireless local network (WLAN) that provides priority to facilitate a handoff of a station (STA) 401 between one or more Access Points (AP) 402, 403, comprising:

a probe request sensing unit 405 ~~for~~ sensing when a probe request message has been sent on a particular communication channel;

an interframe communication sensing unit 415 ~~for~~ sensing a point coordination interframe space (PIFS) on the particular communication channel; and

probe response sending means ~~420~~ for sending the probe response message after the PIFS (~~PIFS~~) sensed by the interframe communication sensing unit ~~415~~ without performing a backoff interval.

16.(currently amended) The Access Point according to claim 15, wherein the interframe communication sensing unit ~~415~~ and the probe response means ~~420~~ sense a distributed coordination function (DCF) interframe space period (DIFS) of a particular channel and respond to probe requests with non-unicast destination addresses after the DIFS (~~DIFS~~) and backoff interval.

17.(currently amended) A fast active scanning system on a wireless local area network between a first station ~~[238]~~ and at least one second station ~~[258,278]~~ comprising:

a first station ~~[238]~~ adapted for sending a probe request message ~~[240,305]~~ over a particular channel having a particular second station ~~[258]~~ in communication therewith with the first station;

means for receiving by said particular second station ~~[258]~~ the probe request message ~~[240,305]~~ sent by the first station ~~[238]~~, said means includes sensing by said particular second station ~~[258]~~ a point coordination function interframe space of the particular channel; and

said particular second station ~~[258]~~ being adapted for sending a probe response message ~~[275]~~ to the first station ~~[238]~~ in response to the probe request message ~~[240,305]~~ after the point coordination function interframe space is sensed without performing a backoff interval.

18.(cancelled)

19.(currently amended) The system according to claim 17, wherein the probe request message ~~[305]~~ sent by the first station ~~[238]~~ comprises a uni-cast message to the particular second station ~~[258]~~.

20.(currently amended) The system according to claim 17, wherein the first station [238] is adapted so that if a probe response message from the particular second station [258] is not received within a predetermined time period, the first station [238] senses a distributed coordination function interframe space period, wherein and the first station [238] selects and implements a backoff interval prior to broadcasting the a probe request message [305] on the particular channel to all available second stations [258, 278].

21.(currently amended) The system according to claim 17, wherein if the first station [238] does not receive a probe response message [275] from the particular second station [258] within a predetermined time period, the first station [238] senses a distributed coordination function interframe space period, wherein and the first station [238] selects and implements a backoff interval prior to broadcasting the a probe request message on a different channel different than the particular channel.

22.(currently amended) The system according to claim 17, wherein if the first station [238] does not receive a probe response message [275] from the particular second station [258] within a predetermined time period, the first station [238] selects another second station [278] on the particular channel and senses a distributed coordination function interframe space period, wherein and the first station [238] selects and implements a backoff interval prior to sending another probe request message that comprises a uni-cast message.

23.(currently amended) A first station [403] in a wireless local network that provides priority to facilitate a handoff between one or more second stations [402, 403], comprising:

a probe request sensing unit [405] for sensing when a probe request message has been sent on a particular communication channel;

an interframe communication sensing unit [445] for sensing a point coordination interframe space on the particular communication channel; and

probe response sending means-{420} for sending the a probe response message after the point coordination function interframe space sensed by the interframe communication sensing unit-{415} without performing a backoff interval.

24.(currently amended) The first station-{401} according to claim 23, wherein the interframe communication sensing unit-{415} and the probe response sending means {420} sense a distributed coordination function- interframe space period of a particular channel and respond to probe requests with non-unicast destination addresses after the distributed coordination function interframe space period and backoff interval.